

TECHNICAL SPECIFICATION

Alarm systems – Intrusion and hold-up systems –
Part 7: Application guidelines
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**ALARM SYSTEMS –
INTRUSION AND HOLD-UP SYSTEMS –****Part 7: Application guidelines**

FOREWORD

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- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 62642-7, which is a technical specification, has been prepared by IEC technical committee 79: Alarm and electronic security systems.

This standard is based on EN/TS 50131-7 (2010).

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
79/315/DTS	79/332/RVC

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 62642 series can be found, under the general title: *Alarm systems – Intrusion and hold-up systems*, on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be be

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

This part 7 of the IEC 62642 series of standards gives requirements for intrusion and hold-up alarm systems. The other parts of this series of standards are as follows:

- Part 1 System requirements
- Part 2-2 Intrusion detectors – Passive infrared detectors
- Part 2-3 Intrusion detectors – Microwave detectors
- Part 2-4 Intrusion detectors – Combined passive infrared / microwave detectors
- Part 2-5 Intrusion detectors – Combined passive infrared / ultrasonic detectors
- Part 2-6 Intrusion detectors – Opening contacts (magnetic)
- Part 2-71 Intrusion detectors – Glass break detectors – Acoustic
- Part 2-72 Intrusion detectors – Glass break detectors – Passive
- Part 2-73 Intrusion detectors – Glass break detectors – Active
- Part 3 Control and indicating equipment
- Part 4 Warning devices
- Part 5-3 Interconnections – Requirements for equipment using radio frequency techniques
- Part 6 Power supplies
- Part 7 Application guidelines
- Part 8 Security fog devices/systems

In order to insure the consistency of the whole IEC 62642 series, the terminology is defined at one place that is the master document IEC 62642-1 that gives general requirements concerning the intrusion system. Exception is made for specific terms to installation and where repetition is deemed essential for the clarity of this document.

A number of requirements are contained in this standard for which a formal test procedure can only be written by defining (and hence restricting) the technology by which the requirement is achieved. Accordingly, it has been recognised that such functions can be tested only by agreement between installers and test house, according to documented information relating to how the required functionality has been achieved.

These application guidelines are intended to provide advice relating to the design, installation, operation and maintenance of Intruder and Hold-up Alarm Systems (I&HAS). The purpose of this document is to ensure, as far as is practical, that I&HAS provide the required performance with a minimum of unwanted alarms.

These application guidelines are set out in the logical order in which an I&HAS would normally be designed and installed. Each procedure is set out separately in the guideline but it is accepted that, in practice, some of the procedures may be carried out simultaneously. Annex K describes in the form of a flowchart the main processes and documentation included in this application guideline.

Those responsible for the design, installation planning, system installation, commissioning, operation and maintenance of I&HAS should be conversant with other International Standards relating to I&HAS, particularly those relating to system performance, control and indicating equipment, detectors, warning devices, power supplies and alarm transmission systems.

These application guidelines are set out in seven main clauses; a brief explanation of each section is shown below.

- a) Clause 7 – System design

This clause is intended to assist those responsible for designing I&HAS to design I&HAS suitable for the premises to be supervised in relation to the perceived risk(s). The design of I&HAS will depend on many factors, all of which will influence more or less the design of I&HAS. Consideration of these factors will result in a system design proposal for an I&HAS with the appropriate extent, security grade and environmental class.

b) Clause 8 – Installation planning

This clause is intended to help those responsible for installing I&HAS by highlighting issues which should be considered prior to commencing the installation of the I&HAS.

c) Clause 9 – System installation

In this clause, guidance is given with regard to issues arising during the installation of I&HAS. This clause is intended to ensure I&HAS is correctly installed as specified at the design stage.

d) Clause 10 – Inspection, functional testing and commissioning

In this clause, guidance is given on issues arising after I&HAS has been installed. The clause is intended to ensure I&HAS has been installed as specified and also provides the level of performance intended at the design stage. Guidance is also provided with regard to the proper commissioning and handing over of the system to the user and to the documents, records and operating instructions which should be provided.

e) Clause 11 – Documentation and records

This clause describes the documentation which should be provided to the client on completion of I&HAS. The documents are intended to provide a history of modifications to I&HAS, based on the as-fitted document, prepared when I&HAS installation was completed.

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The records are intended to chronicle any corrective action carried out following unwanted alarm conditions and details of any repairs or modifications to I&HAS. The record should also include details of temporary fault conditions.

f) Clause 12 – Operation of I&HAS

This clause describes the responsibility of the client or user of I&HAS to properly maintain I&HAS and to ensure it is operated correctly.

g) Clause 13 – Maintenance and repair of I&HAS

This clause describes how I&HAS should be maintained and repaired to ensure I&HAS continues to provide the level of performance intended at the design stage.

ALARM SYSTEMS – INTRUSION AND HOLD-UP SYSTEMS –

Part 7: Application guidelines

1 Scope

This Technical Specification provides guidance on the design, planning, operation, installation, commissioning and maintenance of intrusion and hold-up alarm system (I&HAS) installed in buildings. Requirements for I&HAS are specified in IEC 62642-1:2010.

The recommendations of this Technical Specification (TS) also apply to intruder alarm system (IAS) and hold-up alarm system (HAS) when these systems are installed independently.

When an I&HAS does not include functions relating to the detection of intruders, the requirements relating to intrusion detection do not apply.

When an I&HAS does not include functions relating to hold-up, the requirements relating to hold-up do not apply.

NOTE 1 Unless otherwise stated, the abbreviation I&HAS is also intended to mean IAS and HAS.

These application guidelines are intended to assist those responsible for establishing an I&HAS to ascertain the appropriate design of I&HAS both in terms of the extent of the supervision required and in determining the grade of system performance necessary to provide the degree of supervision considered appropriate.

These application guidelines are also intended to assist those responsible for selecting equipment appropriate to both the level of performance required and the environmental conditions in which the equipment will be required to operate.

These application guidelines are relevant to all classes and grades of I&HAS of any size and complexity. These application guidelines should be read in conjunction with IEC 62462-1:2010.

NOTE 2 It has been assumed in the drafting of these application guidelines that the execution of its provisions will be entrusted to appropriately qualified and experienced persons. However, the guidance is also appropriate to other persons who may be required to purchase or use an I&HAS.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62642-1:2010, *Alarm systems – Intrusion and hold-up systems – Part 1: System requirements*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1**alarm**

warning of the presence of a hazard to life, property or the environment

3.1.2**alarm receiving centre**

continuously manned centre to which information concerning the status of one or more I&HAS is reported

3.1.3**alarm company**

organization which provides services for I&HAS

3.1.4**alarm condition**

condition of an I&HAS, or part thereof, which results from the response of the system to the presence of a hazard

3.1.5**alarm system**

electrical installation which responds to the manual or automatic detection of the presence of a hazard

3.1.6**alarm transmission system**

equipment and network used to transfer information concerned with the state of one or more I&HAS to one or more alarm receiving centre

NOTE Alarm transmission systems exclude local direct connections, i.e. interconnections between parts of an I&HAS which do not require an interface to transform I&HAS information into a form suitable for transmission.

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3.1.7**ancillary control equipment**

equipment used for supplementary control purposes

3.1.8**as-fitted document**

document in which details of I&HAS as actually installed are recorded

3.1.9**control and indicating equipment**

equipment for receiving, processing, controlling, indicating and initiating, the onward transmission of information

3.1.10**commissioning**

putting an I&HAS into operational mode

3.1.11**client**

individual or corporate body responsible for acquiring the I&HAS

3.1.12**detector**

device designed to generate an intruder alarm signal or message in response to the sensing of an abnormal condition indicating the presence of a hazard

3.1.13**documentation**

paperwork (or other media) prepared during the design, installation, commissioning and handover of I&HAS recording details of the I&HAS

3.1.14

entry/exit route

route by which authorized entry or exit to the supervised area or part thereof may be achieved

3.1.15

equipment schedule

list of equipment to be installed or actually installed

3.1.16

fault condition

condition of an alarm system which prevents an I&HAS or parts thereof from functioning normally

3.1.17

entry/exit point

point at which the user enters or leaves the supervised premises

EXAMPLE Entrance door to supervised premises

3.1.18

hold-up alarm system

alarm system providing the means for a user to deliberately generate a hold-up alarm condition

3.1.19

hold-up device

device which when triggered causes a hold-up alarm signal or message to be generated

3.1.20

hold-up alarm condition

condition of an alarm system, or part thereof, which results from the response of an I&HAS to the triggering of a hold-up device

3.1.21

inhibit

status of a part of an I&HAS in which an alarm condition cannot be notified, such status remaining until I&HAS or part thereof is unset

3.1.22

installation company

company responsible for installing the I&HAS

3.1.23

installation plan

document describing the methodology to be followed during the installation of the I&HAS

3.1.24

installer

individual or individuals responsible for carrying out the installation process

3.1.25

intruder alarm system

alarm system to detect and indicate the presence, entry or attempted entry of an intruder into supervised premises

3.1.26

interconnection

means by which messages and/or signals are transmitted between I&HAS components

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3.1.27**isolation**

status of a part of an alarm system in which an alarm condition cannot be notified, such status remaining until deliberately cancelled

3.1.28**non-specific wired interconnection**

interconnection conveying information pertaining to two or more applications

3.1.29**normal condition**

state of an I&HAS system where no conditions exist which would prevent the setting of the I&HAS

3.1.30**notification**

passing of an alarm, tamper or fault condition to warning devices and/or alarm transmission systems

3.1.31**operational mode**

state of an alarm system when it is complete, commissioned and ready for use

3.1.32**part set**

status of an I&HAS in which an intruder alarm condition can be notified but part of I&HAS is unset

3.1.33**power supply**

that part of an alarm system which provides power for I&HAS or any part thereof

3.1.34**response authority**

designated authority with responsibility for attending the supervised premises following an alarm and taking the appropriate action

3.1.35**set**

status of an I&HAS or part thereof in which an alarm condition can be notified

3.1.36**specific wired interconnection**

interconnection conveying information pertaining to one application

3.1.37**specifier**

individual or corporate body responsible for stipulating the requirements I&HAS will be required to meet

3.1.38**subsystem**

that part of an I&HAS located in a clearly defined part of the supervised premises capable of independent operation

3.1.39**supervised premises**

part of a building and/or area in which an intrusion, attempted intrusion, or the triggering of a hold-up device may be detected by an I&HAS

3.1.40

supervised premises transceiver

equipment at the supervised premises, including the interface to the alarm system and the interface to the alarm transmission network

3.1.41

system components

individual items of equipment which constitute an I&HAS when configured together

3.1.42

system record

history of maintenance, faults, repair or modifications to the IAS

EXAMPLE A log book.

3.1.43

tamper

deliberate interference with an I&HAS or part thereof

3.1.44

tamper alarm

alarm generated by tamper detection

3.1.45

tamper condition

condition of an I&HAS in which tampering has been detected

3.1.46

tamper protection

methods or means used to protect an I&HAS or part thereof against deliberate interference

3.1.47

technical survey

inspection of the premises to be supervised, carried out after the proposal has been accepted, to verify the selection, location and siting of system components and to consider the selection of components in relation to the environmental conditions to which the system components will be exposed

3.1.48

unset

status of an I&HAS or part thereof in which an alarm condition cannot be notified

3.1.49

user

person authorized to operate an I&HAS

3.1.50

unknown alarm

alarm for which the cause cannot be positively identified

3.1.51

unwanted alarm

alarm conditions not generated by an intrusion or attempted intrusion into the supervised premises

3.1.52

warning device

device that gives an audible alarm in response to a notification

NOTE A warning device may also provide alert indications providing such indications are easily distinguishable from an alarm.

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3.1.53**wire-free interconnection**

interconnection conveying information between I&HAS components without physical media

3.1.54**zone**

assessed area of a supervised premises where an intrusion, attempted intrusion, or the triggering of a hold-up device may be detected by an I&HAS

3.2 Abbreviations

For the purposes of this document, the following abbreviations apply.

ACE	ancillary control equipment
APS	alternative power source
ARC	alarm receiving centre
ATS	alarm transmission system
CIE	control and indicating equipment
HAS	hold-up alarm system(s)
I&HAS	intrusion and hold-up alarm system(s)
IAS	intruder alarm system(s)
PIR	passive infra-red
PS	power supply
SPT	supervised premises transceiver
WD	warning device

4 Security grade of I&HAS

The security grade of I&HAS will depend upon the performance required as determined during the risk assessment and location survey.

An I&HAS may include I&HAS components of differing grades when divided into clearly defined sub-systems. When I&HAS is divided into sub-systems, each sub-system may be of a different grade. The grade of a sub-system shall be that of the lowest graded component within it.

Components shared by more than one sub-system should have a grade equal to that of the highest sub-system grade, e.g. control and indicating equipment, alarm transmission system, warning devices and power supplies.

IEC 62642-1:2010 describes four security grades which should be considered when selecting equipment. These are as follows.

NOTE In all grades the term “intruder” is intended to embrace other types of threat (e.g. robbery or the threat of physical violence, which might influence the design of an I&HAS).